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G11B 15/02**G04G 15/00****G05B 19/02****H04N 5/782**(21) Application number: **83138679**(71) Applicant: **PATOROMA RES KK**(22) Date of filing: **08.08.88**(72) Inventor: **SHIMOIDE TAKASHI****(54) PICTURE RECORDING RESERVATION CONTROLLER**

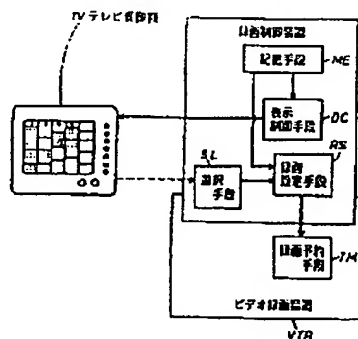
(57) Abstract:

PURPOSE: To simplify a picture recording reservation by storing in advance information containing the contents of a telecast and a telecasting time, displaying this information by a table format on a television receiver and setting the picture recording reservation from this display information.

CONSTITUTION: Information containing at least the contents of a telecast and a telecasting time which is stored in advance in a storage means ME is outputted to a television receiver TV by a display control means DC, and displayed by a table format on the television receiver TV. Accordingly, the contents of the telecast and the telecasting time are visible by the same format as a program table of the telecast inserted in a newspaper and a specialty magazine. In such a state, information is selected by a movement of a selecting means SL, for instance, a cursor and flickering of the display which follows up its movement and an inversion display, etc., and in accordance with this selected information, the telecasting time of the selected telecast contents is set to a picture recording reserving means TM of a video picture recording device

by a picture recording setting means RS. In such a way, the picture recording reservation of a program can be simplified.

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BROADCAST CONTENT RECEIVER

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[There are no amendments to this patent.]

Claims

1. Broadcast content receiver characterized by the fact that in a broadcast content receiver, which has a tuner that extracts the designated channel from the received TV broadcast, there are the following means:

an input means which reads, from the outside into the broadcast content receiver, information including at least the contents of the various TV programs as well as their start times and broadcast channels;

a channel display means which extracts the contents of the TV programs of various channels from said information input by said input means, and displays them on the TV receiver with different channels displayed side by side in one direction, that is, the longitudinal direction or the lateral direction;

a broadcasting sequence display means which displays programs on the same channel among said information input by the input means in order side by side in the direction perpendicular to the said one direction;

a position designation means which can assign the position of display of any program content among the contents of the TV programs displayed on the TV receiver by said broadcasting sequence display means and said channel display means;

an identification display means which can display the content of the program displayed at the position designated by said position designation means in such a way that allows its identification from the contents of the programs at positions not designated;

a setting means which can set as the desired program the content of the program corresponding to the position displayed in an identifiable manner by the identification display means;

a channel matching means which takes the channel of the program corresponding to the position set by the setting means from said information and sets it as the desired program channel;

a start time matching means which takes the start time of the program corresponding to the position set by said setting means from said information and sets its as the information of the desired program;

and a broadcast content output means which extracts the channel set by said channel matching means and outputs it to said tuner when the start time set by said start time matching means becomes the start time.

2. Broadcast content receiver described in Claim 1 characterized by the following facts:

said input means inputs at least the contents of the various TV programs, their start times, their end times, as well as their show lengths and their broadcast channels from the outside into the broadcast content receiver;

and said broadcasting sequence display means displays the contents of the various programs in sizes nearly proportional to the show lengths side by side in said broadcasting sequence.

3. Broadcast content receiver described in Claim 2 characterized by the fact that said broadcast output means has a video recorder for video recording of the broadcast content of the channel extracted and output to said tuner.

4. Broadcast content receiver described in Claims 1-3 characterized by the fact that said identification display means displays the content of the program displayed at the position designated by said position designation means in a manner that allows differentiation from the contents of programs at positions not designated by flashing or inverse video.

Detailed explanation of the invention

Purpose of the invention

Industrial application field

This invention pertains to a type of broadcast content receiver for receiving TV broadcasts.

Prior art

Even today, when TV has existed for a long time, people may still fail to watch desired TV programs. The failure is mainly due to mistakes in the broadcast day or time, or for forgetting the time of the program. Also, one may select the wrong channel without noticing the mistake, although power is turned on for the TV receiver on time. In this case, a program different from the desired program is output onto the screen, and, although one can switch to the desired channel, the beginning is nevertheless missed.

As a method to solve this problem, one may record the desired program on a video recorder (or, video tape recorder). However, for such a video recorder, it is rather complicated to set the various items in the program recording mode, such as setting the video recording start time, setting the program channel for recording, setting the video recording end time, etc. Consequently, a type of video recorder has been proposed for senior persons who are neophytes in operation of the equipment. In this video recorder, a bar code is used to input the video recording start time, or there is a function to record the same program at the same time each week.

Problems to be solved by the invention

However, in the aforementioned method, because a bar code has to be used, the operation is not intuitive and is complicated. In particular, when programs on different channels shown consecutively are to be recorded, or when the same program is to be recorded at different times in different weeks, even when bar codes are used, setting becomes extremely complicated. Also, using a bar code may lead to reading errors.

The purpose of this invention is to solve the aforementioned problems of the conventional technology by providing a type of broadcast content receiver which can get the desired TV program reliably with a simple operation.

Constitution of the invention

In the following, the constitution of this invention with the aforementioned purpose will be explained.

Means to solve the problems

Claim 1 of this patent application provides a type of broadcast content receiver characterized by the fact that in the broadcast content receiver, which has a tuner that extracts the designated channel from the received TV broadcast content, there are the following means:

- an input means which reads from the outside into the broadcast content receiver, information including at least the contents of the various TV programs as well as their start times and broadcast channels;

- a channel display means which extracts the contents of the TV programs of various channels from said information input by said input means, and displays them on the TV receiver with different channels displayed side by side in one direction, that is, the longitudinal direction or the lateral direction;

- a broadcasting sequence display means which displays the programs on the same channel among said information input by the input means in order side by side in the direction perpendicular to said one direction;

- a position designation means which can assign the position of display of any program content among the contents of the TV programs displayed on the TV receiver by said broadcasting sequence display means and said channel display means;

- an identification display means which can display the content of the program displayed at the position designated by said position designation means in such a way that allows its identification from the contents of the programs at positions not designated;

- a setting means which can set as the desired program the content of the program corresponding to the position displayed in an identifiable manner by the identification display means;

- a channel matching means which takes the channel of the program corresponding to the position set by the setting means from said information and sets it as the desired program channel;

- a start time matching means which takes the start time of the program corresponding to the position set by said setting means from said information and sets it as the information of the desired program;

and a broadcast content output means which extracts the channel set by said channel matching means and outputs it to said tuner when the start time set by said start time matching means becomes the start time.

Claim 2 of this patent application pertains to the broadcast content receiver described in Claim 1 characterized by the following facts:

said input means inputs at least the contents of the various TV programs, their start times, their end times, as well as their show lengths and their broadcast channels from the outside into the broadcast content receiver;

and said broadcasting sequence display means displays the contents of the various programs in sizes nearly proportional to the show lengths side by side in said broadcasting sequence.

Claim 3 of this patent application pertains to the broadcast content receiver described in Claim 2 characterized by the fact that said broadcast content output means has a video recorder for video recording of the broadcast content of the channel extracted and output to said tuner.

Claim 4 of this patent application pertains to the broadcast content receiver described in Claims 1-3 characterized by the fact that said identification display means displays the content of the program displayed at the position designated by said position designation means in such a manner that allows differentiation from the contents of programs at positions not designated by flashing or inverse videos.

Function

The broadcast content receiver described in Claim 1 of this invention with the aforementioned constitution receives the desired program content in the following way.

First of all, via the input means, information containing at least the content of the TV programs, their start times and broadcast channels is input from the outside into the broadcast content receiver. In this case, the content of a TV program (referred to as program content hereinafter) refers to the program title, its abbreviation, and a phrase that can represent it (such as "news," "golf," etc.). From this input information, the channel display means retrieves the program contents and displays them, with different channels displayed side by side in one direction, that is, in the longitudinal direction or the lateral direction, on the TV receiver. Then, a broadcasting sequence display means displays the programs on the same channel side by side in the direction perpendicular to said one direction on the TV receiver. In this way, the program contents are displayed on the TV receiver in a table configuration similar to the program listings in the newspaper.

In this state, the desired broadcast content is selected by means of the position designation means, identification display means, and setting means. The position designation means allows designation of any program content among the program contents listed in table form. This may be realized by means of, say, a touch pad, mouse, or light pen. The identification display means displays the image of the program content displayed at the position designated with the position designation means in such a manner that it allows differentiation from program contents at positions not designated. Then, the setting means enters the position identifiably displayed by the identification display means as the desired broadcast program.

As the setting means is used to select any desired position on the display, the channel matching means takes the channel corresponding to the program at that position from the information input by the input means, and enters it as the desired program channel. Similarly, the start time matching means takes the start time corresponding to the program at that position from the information input by the input means, and sets it as the start time of the desired program. Then, based on the aforementioned information corresponding to the selected program content, the broadcast content output means extracts the broadcast channel corresponding to the program content and outputs it to the aforementioned tuner when the start time arrives.

That is, selection of the channel is carried out based on the program content, instead of using the number corresponding to the channel as in the conventional method. Also, by showing the display on the TV receiver in the aforementioned table form, the start time of each program content is visually displayed while the abstract information of the numbers that display the time is omitted. In this way, instead of having the user recognize the abstract and error-inviting information of the channel and start time, the user can recognize the program content by comparison with program contents on different channels and program contents shown before and after the program on the same channel. Consequently, there is no way to make a mistake in recognizing the desired channel among different channels and the program among other programs adjacent to it in time of broadcast. That is, the items to be determined are intuitively displayed to the user.

Presetting of the program content can be carried out by designating the position where the desired program content is displayed with the position designation means and then operating the setting means. During this period, there is no need to handle the abstract information for designating the channel and the start time. The start time that has been omitted is nevertheless needed when the broadcast content output means extracts the channel and outputs it to the tuner. However, in this case, the start time matching means is used to match it by means of the information taken from the outside by the input means. Also, for the channel, there is no need to designate it by the position designation means. Instead, it is matched by the channel matching means from the input information.

Thus, the user of the broadcast content receiver can preset the program in the same way that he/she selects the desired program while reading the program listings in a newspaper. That is, the user can designate the desired program content by means of the position designation means and enter the program by means of the setting means, while viewing the program contents shown on the TV receiver in table form. Also, the position designated by the position designation means is displayed in a manner that allows its differentiation from the other positions by the identification display means. Consequently, it can be easily determined visually, and there is no need to worry about selecting the adjacent program content by mistake. As a result, there is little chance of making mistakes in the presetting operation.

Also, in the broadcast content receiver described in Claim 2, the input means also inputs the end time of each program (or the show length, that is, the period from start to end of the program), and the broadcast sequence display means lists the various programs in sizes nearly proportional to their show lengths side by side. This makes the effect even better.

By contrast, if all of the programs are displayed in the same size irrespective of their show lengths, there is no way to find out whether there is a relationship between the desired program and the programs shown on the other channels when the programs [of interest] are shown on several channels, even when several channels are displayed. At this point, by means of the invention described in Claim 2, the user can determine the show length intuitively from the sizes of the programs, and the user can see clearly whether there is any relationship with the programs shown on other channels.

In the broadcast content receiver described in Claim 3, there is a video recording device which video records the program on the channel extracted by the broadcast content output means and output to the tuner. Consequently, once the program title is displayed in the aforementioned table form, and the desired program is designated by the position designation means and selected by the setting means, the program is recorded on a video recorder.

In the broadcast content receiver described in Claim 4, in order to make the program content display at the position designated by the position designation means, the identification display means flashes or employs inverse video.

In this case, even when a large number of programs are displayed on the TV receiver, the position designated by the position designation means can be seen at first glance. Consequently, this scheme is particularly effective in cases where the number of channels displayed in one display is large.

Application examples

In order to further clarify the constitution and functions of this invention explained above, an application example of the broadcast content receiver of this invention applied in a video recording presetting controller will be explained in the following. First of all, Figure 1 is a schematic block diagram illustrating the basic configuration of the video recording presetting controller. As shown in this figure, the video recording presetting controller mainly comprises a memory means, a display control means, a selecting means, a video recording setting means, and a video recording presetting means. The memory means stores information about the TV broadcasts. This information includes the TV broadcast contents and the broadcast start and end times, and it is stored for one week or four weeks. The display control means displays the information stored in the memory means on the TV receiver in table form. The selecting means unifies the aforementioned selecting means with the position designation means, identification display means, and setting means of this invention. From the displayed information, the desired broadcasting information is selected. According to the selected information, the video recording setting means set the broadcast in the video recording presetting means in the video recording device. Figure 2 is a diagram illustrating a practical video recording presetting controller. It is an oblique view illustrating the appearance of video recording presetting card (1) together with video tape recorder (VTR) (3) and with TV receiver (5) connected to it through cable (4). As shown in the figure, VTR (3) has cassette inserting unit (7) where the video cassette is inserted, time display unit (8) which displays the present time, and connecting unit (10) which accepts card-shaped video recording presetting card (1) which is inserted by sliding in from above.

Video recording presetting card (1) prestores the contents and times or the like for TV programs for one week or several weeks. It is sold either alone or together with the weekly magazines or monthly magazines that provide explanations of program contents. In this application example, as will be explained later, the contents of programs, etc., are stored in a ROM. However, it is also possible to store them in a reloadable PROM or RAM backed up by batteries, and to allow reloading by an automatic vending machine. Said video recording presetting card (1) is installed on connecting unit (10) of VTR (3).

Said video recording presetting card (1) has on its surface control keys (11), (12) and (13) engraved with the words "set," "weekly," "consecutive" etc., as well as cursor keys (21), (22), (23) and (24) engraved with up/down and left/right arrows, respectively. On the lowermost end of the card is placed connector (30) for making connection with connecting unit (10) in VTR (3).

In the following, the configurations inside video recording presetting card (1) and VTR (3) will be explained. As shown in Figure 3, inside video recording presetting card (1), around

conventional CPU (31), ROM (32) and RAM (33), key input port (35), input/output port (38), etc., are positioned and are connected to each other by means of bus (34).

In ROM (32), together with the control program, the simple contents of the broadcast programs for one week to four weeks as well as their start and end times are stored. In key input port (35), keys (11)-(13) and (21)-(24) set on the card surface are connected to each other. Input/output port (38) is for exchanging the data with the controller inside VTR (3). When video recording presetting card (1) is installed on VTR (3), it is connected through connector (3) to bus (45) inside the VTR.

On the other hand, inside VTR (3), in addition to conventional CPU (51), ROM (52), RAM (53), and timer (55) connected to each other by bus (45), there are the following parts: tuner (60) which receives the TV broadcast signal through antenna (57), video recording reproducing unit (65) which makes a video recording or reproduction of the remodulated signal on a video tape, and video signal output unit (70) which outputs the video signal to TV receiver (5). Timer (55) has a calendar function that controls the year, month and date, and a 24 hour clock function. When the time preset by CPU (51) through internal bus (45) arrives, it is sent to CPU (51) as an interrupt, and, at the same time, the present time is displayed on time display unit (8). Also, tuner (60) can select the demodulating channel upon instruction from CPU (51). The demodulated video signal from the selected channel is output to video recording/reproduction unit (65). The control signal of CPU (51) is also output to said video recording/reproduction unit (65). Upon receiving this signal, video recording/reproduction unit (65) drives the head for video recording/reproduction not shown in the figure and controls the motor for driving the tape reel corresponding to video recording/reproduction of the video signal. In addition, video signal output unit (70) selects among the video signal of the demodulating channel by tuner (60), the video signal reproduced by video recording/reproduction unit (65), and the video signal generated by reading the image data stored in RAM (53) by CPU (51), and stores the selected video signal in an internal video memory, followed by constant output to TV receiver (5).

In the following, with reference to Figure 4, which illustrates the program table, as well as Figures 5 and 6, which illustrate the flow charts, the processing executed by video recording presetting card (1) as well as by CPU (31) and (51) of VTR (3) will be explained. After video recording presetting card (1) is installed in VTR (3) and the power source is turned on, the processing routine on the card side shown in Figure 5 is started. First of all, initialization of the cursor position and other processes are carried out (step 100). The initial position of the cursor is at the preset origin. It corresponds to the program in the earliest time band (program A1 in this application example) and to the channel having the lowest number in the program table shown in Figure 4. Then, the program table is read from ROM (32) (step 110). After that, processing is performed so that the program data of the region corresponding to the cursor position and the

data of the cursor position are output through output port (38) to VTR (3) (step 120). That is, as there is no way to display the entire program table all at once on TV receiver (5), the program data corresponding to one frame around the position of the cursor are output. The output program data are temporarily stored in RAM (53) through connector (30). Then, under control of CPU (51), the program data are sent to video recording output unit (70), where the program data are converted to the video signal which is input to TV receiver (5). That is, as connecting unit (10) and CPU (51) which performs processing to take the program data from connecting unit (10)--input the information on the broadcast content from exterior ROM (32) through connector (30) or the like, they correspond to the input means in this invention. The processing in step 120 acts as a combination of the channel display means and broadcasting sequence display means. Then, it stands by to await operation of the keys set on the surface of video recording presetting card (1) (step 130), and, when the input key is pushed, it continues to the processing of step 140 and thereafter.

When the input key is the cursor key, cursor data are output corresponding to the specific key among keys (21)-(24) that is pushed (step 140), and the cursor position information stored in RAM (33) is refreshed corresponding to the configuration of the program table (step 150). For example, when the cursor is at the position of program C3 shown in Figure 4, when up arrow cursor key (21) is pushed, the data are output to video recording output unit (70) of VTR (3), and, at the same time, the cursor position information in video recording presetting card (1) is refreshed from the position of program C3 to program C2. Also, when right arrow cursor key (24) is pushed, the cursor position information is refreshed from the position of program C3 to the position of program D3. After the aforementioned processing, it returns to step 120, and the processing of step 120 and thereafter is carried out. Consequently, when the cursor is moved out of the default display region, the region of the program displayed is also refreshed by means of the processing of step 120.

In the judgment made in step 130, if it is found that the input key is "set" key (11), the start time of the program corresponding to the current cursor position information and its channel number are read from ROM (32) (step 160). In this case, the processing of reading of the start time of the program corresponds to the start time matching means in this invention, and the processing of reading of the channel corresponds to the channel matching means of this invention. Then, the video recording start time is output to CPU (51) of VTR (3) (step 170). For example, when the cursor is at program C3, the start time of 8 h 45 min of this program together with channel CH5 are read and output. That is, setting key (11) corresponds to the setting means of this invention. Then, the end time of this program is read (step 180), and this time is output (step 190). In the aforementioned example, the end time of 9 h 30 min is read and output.

On the other hand, when the "weekly" key (12) is pushed as input, the programs in the next week and there after stored in ROM (3) are searched (step 200), and judgment is made as to whether the same program exists in the next week as the program where the cursor now sits (step 210). If there the same program exists in the next week or thereafter, just as in the aforementioned case when "set" key is pushed, the start time, including the date of the program, and the channel are read and output, and then the end time is read and output (steps 160-190). On the other hand, if there is no identical program, it returns to step 120, and the processing from the key input is repeated. By means of this processing, even when the same program is broadcast at a different time in the next week and thereafter, one can still easily preset it. The processing performed on the side of VTR (3) will be explained later.

When the input key is "consecutive" key (13) in step 130, among the several programs selected up to that point, the end times are cancelled for the consecutive programs (step 220). As a result, when video recording is set for several consecutive programs (including both the case of different channels and the case of the same channel), power to VTR (3) is not turned off at the end of a program.

The above is an explanation of the processing on the video recording presetting card (1) side. On the other hand, the following processing on the VTR (3) side is carried out corresponding to the aforementioned processing. First of all, as shown in Figure 6, it stands by to await output of data from video recording presetting card (1) (step 300). When there is data output, its content is determined (step 310). When the output content is the cursor data (corresponding to step 140 in Figure 5), CPU (51) outputs data to video recording output unit (70), and the inverse video of the position of the program displayed is renewed (step 350). For example, when program C3, represented as a hatched area in Figure 4, is in inverse video, when the information of operation of down-arrow cursor key (22) is sent from video recording presetting card (1), display is switched to the state in which program C4 shows in inverse video while program C3 is displayed normally. That is, cursor keys (21)-(24) correspond to the position designation means in this invention, and the processing of inverse display of the designated program corresponds to the identification display means of this invention.

On the other hand, when the content of the output from video recording presetting card (1) is the data of the program table, the data correspond to the data output in step 120 in Figure 5. After the data are stored temporarily in RAM (53), they are set in video signal output unit (70) as the data displayed on TV receiver (5) (step 320), and the cursor position data output from video recording presetting card (1) are input (step 330). Then, based on the data of the input cursor position, the position of the program displayed in inverse video is set in video signal output unit (70) (step 340).

Also, when the content of the output from video recording presetting card (1) is the setting time information corresponding to steps 170 and 190 in the processing performed on the card side, the information is temporarily stored in RAM (53) (step 360), and, among the several times stored, the date and time nearest to the present time is set in timer (55) (step 370). In timer (55), when the set date and time arrives, an interrupt is sent to CPU (51), tuner (60) and video recording/reproduction unit (65) is driven, so that the program of the channel recorded is stored on the video cassette tape.

After the end of said processing in steps 310 through 370, it returns to step 300, and it repeats the processing from the step of standby awaiting data output from video recording presetting card (1).

By means of the aforementioned processing on the video recording presetting card (1) side and processing on the of VTR (3) side, the user performs the following setting for video recording presetting.

(1) First of all, video recording presetting card (1) is installed in VTR (3). As the power source is turned on, a portion of the program schedule of the day is shown on TV receiver (5). As shown in Figure 4, it is displayed in table form. By means of the operation of cursor keys (21)-(24), the desired program can be displayed in inverse video. When the inverse display portion is moved out of the default display region, the display region is refreshed. In the above, no special explanation has been made of processing to display a program table other than the program table of the day. One may set a dedicated key, or may make use of a combination of cursor keys (21), (22) and other keys to display the program table of the preceding day or the next day.

(2) When "set" key (11) of video recording presetting card (1) is operated in the state when the desired program is displayed in inverse video, the starting time, including the date of the program, as well as the channel and the end time are stored, and, when the start time arrives, VTR (3) receives, demodulates, and outputs the required channel by means of tuner (60), and video recording/reproduction unit (65) is started. When the end time arrives, the video recording operation comes to the end. That is, the processing of this invention corresponds to the broadcast content output means of this invention added to the control processing of video recording/reproduction unit (65).

(3) If "weekly" key (12) is pushed after the video recording presetting for a certain program, the contents of the programs in the next week and thereafter prestored in ROM (32) are searched. If there exists a program identical to the program now in inverse display, the start time, including the date, as well as the channel and the end time are set. Consequently, even when the same program is to be broadcast at different times, it is still possible to perform correct video recording presetting.

(4) When "consecutive" key (13) is pushed after setting of several programs in the video recording presetting, among the video recording preset programs, setting of the end times of programs filling consecutive time slots is cancelled. Consequently, when several programs in consecutive time slots are recorded, at the end of each of the preset programs, power to VTR (3) is not turned off. This is preferred in order not to wear out VTR (3).

As explained above, in this application example video recording presetting card (1) has the contents of the programs as well as their start and end times for one week or several weeks preset, and they are displayed on TV receiver (5) to allow video recording presetting of programs. Consequently, it is possible to perform video recording presetting in a very simple manner. One may simply select the program, without the need to perform complicated time setting or bar code reading operations. Consequently, even persons unfamiliar with operation of the equipment can make use of the system. In addition, in this application example, it is possible to search programs with the same content. Consequently, even when consecutive [sic; weekly] programs are shown in different time slots, it is possible to perform the video recording presetting operation in a simple manner.

An application example of this invention has been explained above. However, this invention is not limited to this application example. For example, one may use a touch pad placed on the screen of the TV receiver in place of the cursor keys, and one may use a mouse or a light pen to select the desired program. Also, one may set the keys for the setting operation directly on the TVR. These and other configurations may be adopted at will as long as the scope of this invention is observed.

Effects of the invention

As explained in detail above, in the broadcast content receiver described in Claim 1 of this invention, the program contents are displayed visually in table form on the TV receiver. In this way, instead of making the user recognize the abstract and error-inviting channel and start time information, the user can recognize the program content by comparison with program contents on different channels and program contents shown before and after the program on the same channel. Consequently, there is no way to make a mistake in differentiating the desired channel from other channels and the [desired] program from other programs adjacent to it in time of broadcast. That is, the items to be determined are intuitively displayed to the user.

Presetting of the program content can be carried out by designating the position where the desired program content is displayed with the position designation means and then operating the setting means. During this period, there is no need to handle the abstract information for designating the channel and the start time. The start time that has been omitted is nevertheless

needed when the broadcast content output means extracts the channel and outputs it to the tuner. However, in this case, the start time matching means is used to match it by means of the information taken from the outside by the input means. Also, for the channel, there is no need to designate it by the position designation means. Instead, it is matched by the channel matching means from the input information.

Thus, the user of the broadcast content receiver can preset the program in the same way that he/she selects the desired program while reading the program listings in a newspaper. That is, the user can designate the desired program content by means of the position designation means and enter the program by means of the setting means, while viewing the program contents shown on the TV receiver in table form. Also, the position designated by the position designation means is displayed in a manner that allows its differentiation from the other positions by the identification display means. Consequently, it can be easily determined visually, and there is no need to worry about selecting the adjacent program content by mistake. As a result, there is little chance of making mistakes in the presetting operation.

Consequently, by using the broadcast content receiver described in Claim 1, the video signal of the extracted channel is displayed on the desired image output device (such as a TV screen), and, without pre-wiring and other operations, the aforementioned operation can be carried out before the broadcast time. As a result, the desired program can be viewed from the very beginning. In the conventional method in which the broadcast content and its bar code are displayed side by side, and the bar code is used for input, if the bar code is read incorrectly, the broadcast content adjacent to the desired broadcast content is selected. Now, by using the broadcast content receiver described in Claim 1, the position of the desired broadcast content is displayed differently from the other positions, and the aforementioned problem can be avoided.

Also, in the broadcast content receiver described in Claim 2, the input means also inputs the end time of each program (or the show length, that is, the period from start to end of the program), and the broadcasting sequence display means lists the various programs in sizes nearly proportional to their show lengths side by side. From the sizes of the programs, the user can determine the show length intuitively, and the user can see clearly any relationship with the programs shown on other channels.

In the broadcast content receiver described in Claim 3, there is a video recording device which records the program on the channel extracted by the broadcast content output means and output to the tuner. Consequently, once the program title is displayed in the aforementioned table form, and the desired program is designated by the position designation means and selected by the setting means, the program is recorded on a video recorder. In this way, by reproducing the recorded content, one can watch the desired program. This is an excellent result.

In the broadcast content receiver described in Claim 4, in order to make the program content displayed at the position designated by the position designation means, the identification display means flashes or exhibits inverse video. In this case, even when a large number of programs are displayed on the TV receiver, the position designated by the position designation means can be seen at first glance. Consequently, this scheme is particularly effective in the case when the number of channels displayed on the screen is large.

Brief description of the figures

Figure 1 is a block diagram illustrating the basic constitution of the video recording presetting controller in an application example of this invention. Figure 2 is a perspective view illustrating the appearance of video recording presetting card (1) together with video tape recorder (3). Figure 3 is a block diagram illustrating the internal configuration of video recording presetting card (1) and video tape recorder (3). Figure 4 is a diagram illustrating an example of the program display of this application example. Figure 5 is a flow chart illustrating the processing on the video recording presetting card (1) side. Figure 6 is a flow chart illustrating the processing on the video tape recorder (3) side.

- 1 Video recording presetting card
- 3 Video tape recorder (VTR)
- 5 TV receiver
- 11, 12, 13 Control key
- 21, 22, 23, 24 Cursor key
- 55 Timer
- 60 Tuner
- 65 Video recording/reproduction unit
- 70 Video signal output unit

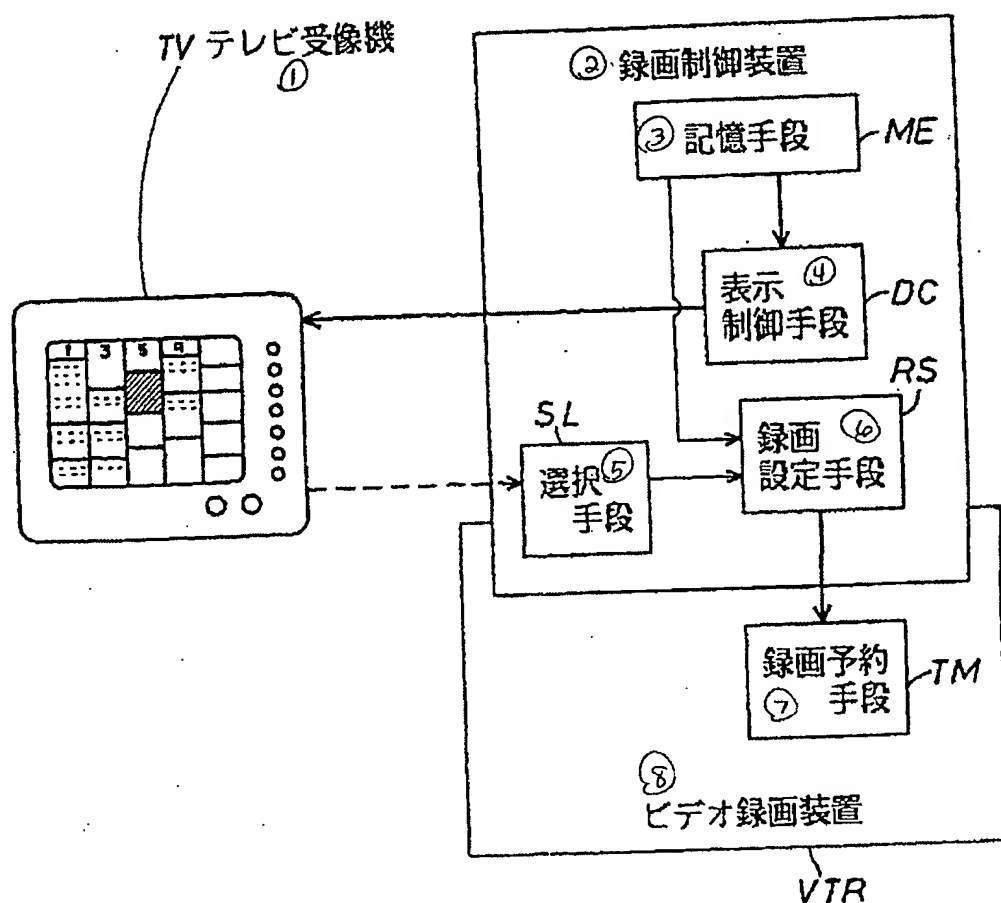


Figure 1

- Key:
- | | |
|---|----------------------------------|
| 1 | TV receiver |
| 2 | Video recording controller |
| 3 | Memory means |
| 4 | Display controlling means |
| 5 | Selecting means |
| 6 | Video recording setting means |
| 7 | Video recording presetting means |
| 8 | Video recorder |

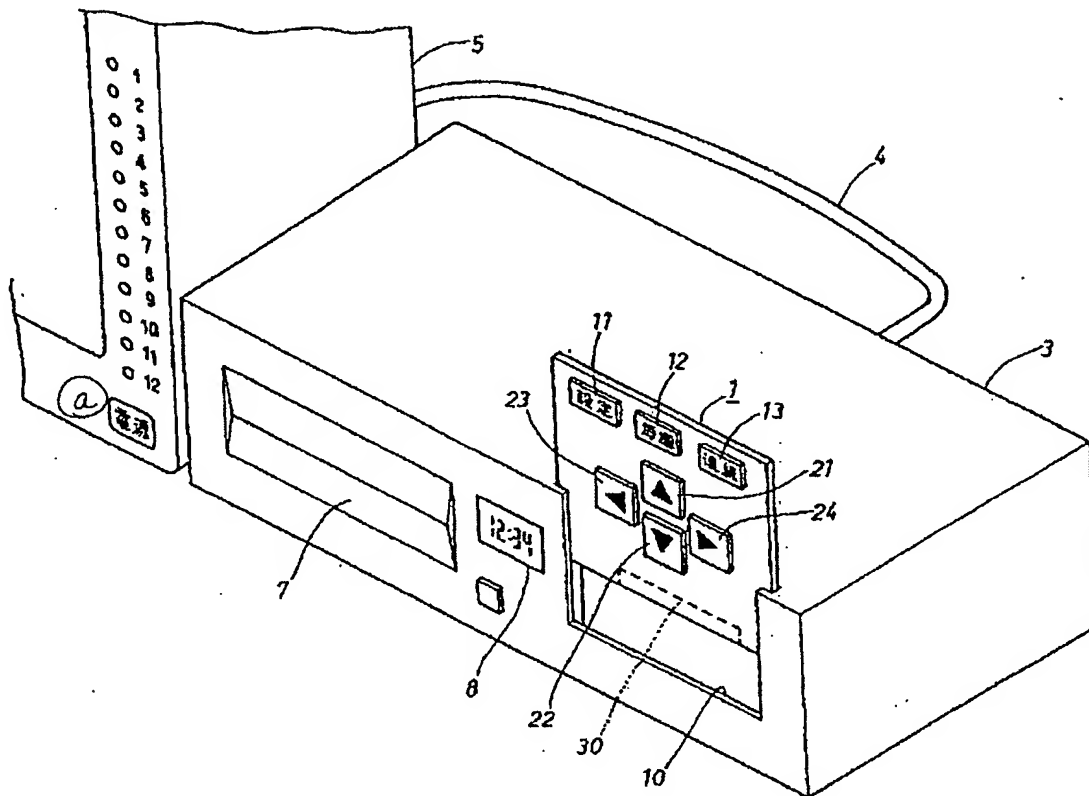


Figure 2

Key: 11 Set
12 Weekly
13 Consecutive
a Power

Key: 11 Set
 12 Weekly
 13 Consecutive
 30 Connector
 35 Keyboard for input
 38 Input/output port
 55 Timer
 60 Tuner
 65 Video recording/reproduction unit
 70 Video signal output unit
 a Video tape

CH1	CH3		CH5	CH7
00 A1	00 B1	7	00 C1	00 D1
15 A2	30 B2			45 D2
00 A3	B3	8	00 C2	D3
30 A4			45 C3	
00 A5		9	30 C4	
30 A6				
00 A7	B4	10	00 C5	30 D4
15 A8			45 C6	00 D5
00 A9	00 B5	11	00 C7	00 D6
	30 B6		45 C8	
00 A7	B7	0	00 C9	
			30 C10	

Figure 4

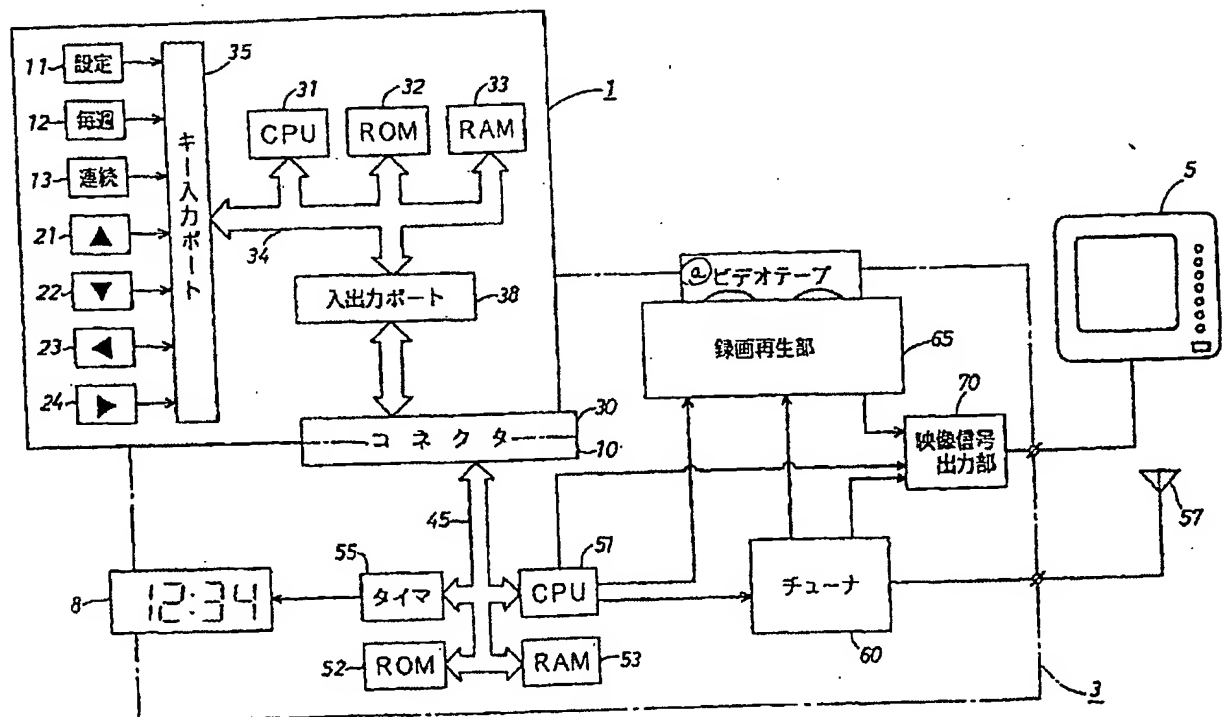


Figure 3

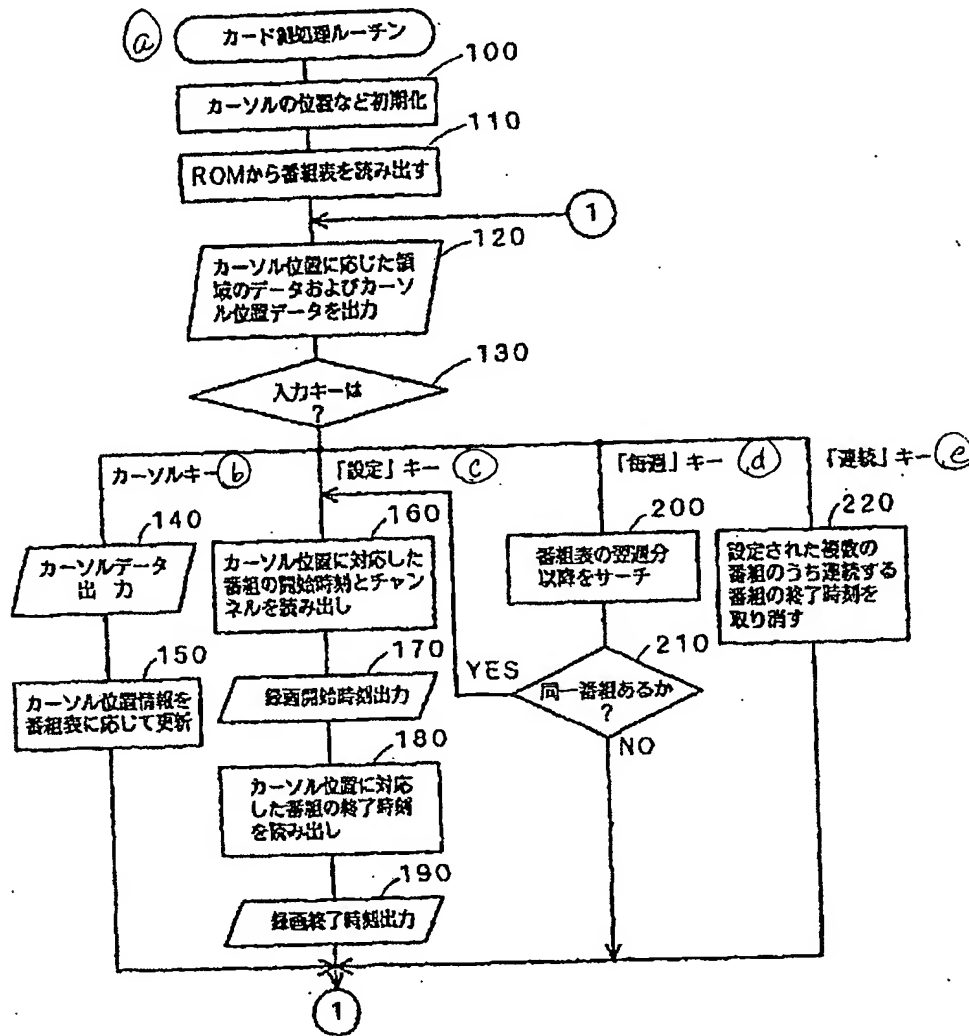


Figure 5

- Key:
- a Card processing routine
 - b Initialization of cursor position, etc.
 - c "Set" key
 - d "Weekly" key
 - e "Consecutive" key
 - 100 Initialization of cursor position, etc.
 - 110 Read of program table from ROM
 - 120 Output of the data of the region corresponding to the cursor position and the data of the cursor position
 - 130 What is the input key?

- 140 Output of the cursor data
- 150 Refreshing of the cursor position information corresponding to the program table
- 160 Read of the start time of the program corresponding to the cursor position and the channel
- 170 Output of video recording start time
- 180 Read of the end time of the program corresponding to the cursor position
- 190 Output of the video recording end time
- 200 Searching of the programs in the near week and thereafter in the program table
- 210 Is it the same program?
- 220 Cancellation of the end times of the programs consecutive to each other among the several programs set

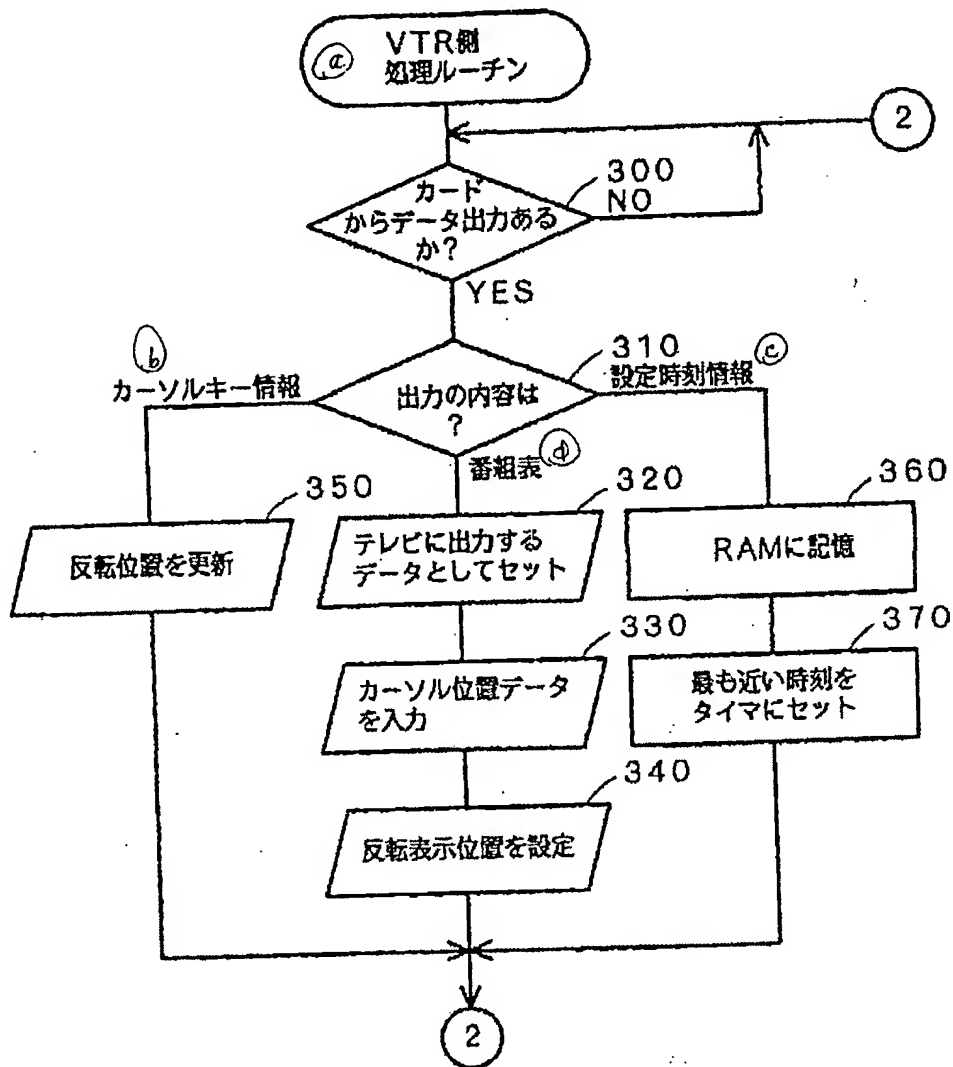


Figure 6

- Key:
- a VTR processing routine
 - b Cursor key information
 - c Time setting information
 - d Program table
 - 300 Is there output of data from the card?
 - 310 What is the content of the output?
 - 320 Setting of the data as the data for output to the TV receiver
 - 330 Input of the cursor position data
 - 340 Setting of the inverse display position
 - 350 Refreshing of the inversion position

360 Store in RAM
370 Setting the nearest time in the timer

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(54) Title of the Invention: Recording reservation controller

(21) Patent Application No.: S63-138679

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SPECIFICATION

1. Title of the Invention

Recording reservation controller

2. Scope of Claims

1 A recording reservation controller attached to a video recording device for recording the broadcast content of a television so as to control the recording thereof, characterized in that it comprises:

memory means for memorizing in advance information including at least the content and the broadcast time of a television broadcast;

display control means for outputting said memorized information to a television receiver and displaying it in a schedule format in said television receiver;

selection means for selecting the desired broadcast content from said displayed information; and

recording setting means for setting said broadcast time in recording reservation means of the video recording device in accordance with said selected information.

3 Detailed Description of the Invention

Object of the Invention

[Field of Industrial Utilization]

The present invention relates to a recording reservation controller for implementing recording reservation.

[Prior Art]

Accompanying the widespread use of video recording

devices (so-called videotape recorders), a range of devices for automatically performing recording at a time set in advance has been proposed. A diverse range of setting contents are used in recording devices such as this including the recording start time, the channel on which the program is broadcast, and the recording end time, and this setting requires both a significant amount of time and a significant level of expertise. Thereupon, with the aim of making the setting of recording reservation simple for those with no expertise in the operation of machines such as the elderly, a recording device that uses a barcode to read the recording start time and comprises a function for, using a weekly unit, the recording of the same program at the same time each week has been proposed.

[Problems to be Solved by the Invention]

However, there are problems inherent to the use of recording devices such as this in that, because they employ a so-called "promise" method based on the use of a barcode, their operation requires no intuition and, moreover, is complex. Setting is very complicated using a barcode, particularly for the recording of programs on different channels of consecutive broadcast time and when the same program is broadcast at a different time depending on the week. In addition, reading errors are liable to occur using a barcode. For this reason, there is demand for an improved device for simplifying the recording reservation of a desired

program.

With the resolution of this problem in mind, an object of the present invention is to achieve a simplification of the recording reservation.

Constitution of the Invention

The constitution of the present invention for achieving this object is hereinafter described.

[Means to Resolve the Problems]

The recording reservation controller of the present invention which, as shown in Fig. 1,

constitutes a recording reservation controller attached to a video recording device VTR for recording the broadcast content of a television so as to control the recording thereof, characterized in that it comprises:

memory means ME for memorizing in advance information including at least the content and the broadcast time of a television broadcast;

display control means DC for outputting said memorized information to a television receiver TV and displaying it in a schedule format in said television receiver TV;

selection means SL for selecting the desired broadcast content from said displayed information; and

recording setting means RS for setting said broadcast time in recording reservation means TM of the video recording device VTR in accordance with said selected information.

[Action]

As described below, the recording reservation controller of the present invention of the configuration described above is attached to a video recorder for recording the broadcast content of a television to control the recording thereof.

Information including at least the content and the broadcast time of a television broadcast memorized in advance in memory means ME of the recording reservation controller is output to a television receiver TV by display control means DC and displayed in a schedule format in the television receiver TV. Accordingly, the broadcast content and broadcast time can be viewed in the same format as the television broadcast program schedule listed in a newspaper or television magazine. In this state, information is selected by selection means SL by, for example, the moving of a cursor and a flash display or inverse display accompanying this whereupon, in accordance with the selected information, the broadcast time of the selected broadcast content is set in recording reservation means TM of the video recording device by recording setting means RS.

Accordingly, when the selected program time is reached, the video recorder VTR executes recording using the recording reservation means TM in accordance with the broadcast content displayed in a schedule format in the television receiver TV.
[Embodiment]

In order to further clarify the constitution and action of the present invention described above, a preferred

embodiment of the recording reservation controller of the present invention will be hereinafter described. Fig. 2 is a perspective view showing the external appearance of a recording reservation card 1 which serves as one embodiment of the recording reservation controller of the present invention, a videotape recorder (VTR) 3, and a television receiver 5 connected thereto by way of a cable 4. As shown in the drawing, the VTR 3 comprises, for example, a cassette insert part 7 into which a video cassette tape is inserted, a time display part 8 that displays the current time, and a junction part 10 into which the card-shaped recording reservation card 1 is inserted from above.

The recording reservation card 1, on which the content and the times and the like of one week to several weeks of broadcast television programs are recorded in advance, is sold individually or together with a weekly or monthly magazine that contains a commentary of the programs. While in the present embodiment the content of the programs and so on are memorized in a ROM as described below, this content may be memorized in an a rewritable PROM or battery-backed RAM, and it may be rewritable using a vending machine or the like. The recording reservation card 1 is employed by attachment to the junction part 10 of the VTR 3.

Control keys 11, 12, 13 on which characters such as "setting", "weekly" and "serial" are printed and cursor keys 21, 22, 23, 24 on which up/down left/right arrows are printed

are provided on the upper surface of the recording reservation card 1. A connector 30 that connects with the junction part 10 of the VTR 3 is provided in the lowermost end of the recording reservation card.

Next, the internal configuration of the recording reservation card 1 and VTR 3 will be described with reference to Fig. 3. As shown in the drawing, a key input port 35 and input/output port 38 which are mutually connected by way of a well-known CPU 31, ROM 32 and RAM 33 by means of a bus 34 are provided in the internal part of the recording reservation card 1.

Together with a control program, a simple description of one to four weeks of broadcast program content and the broadcast start and end times are memorized in the ROM 32. In addition, the keys 11 to 13 and 21 to 24 provided on the upper surface of the card are connected to the key input port 35 into which the operational state of the keys is input. The input/output port 38 serves as a port for exchanging data and so on with the internal controller of the VTR3 and, when the recording reservation card 1 is attached to the VTR3, it is connected to an internal bus 45 by way of a connector 3.

Meanwhile, in addition to a well-known CPU 51, ROM 52, RAM 53 and timer 55 which are mutually connected by way of the bus 45, a tuner 60 for demodulating the picture image and sound signal received as television broadcast electromagnetic waves by way of an antenna 57, a recording reproducer 65 for

recording or reproducing the demodulated signal on a videotape, and a picture image signal outputter 70 for outputting the picture image signal to the television 5 are provided in the internal part of the VTR 3. The timer 55 comprises a calendar function for managing the date and a 24hr timer function, and when the time set by the CPU 51 in advance by way of the internal bus 45 is reached, this time is notified to the CPU 51 as an interruption and the current time is displayed in the time display part 8. In addition, the tuner 60 can select a channel for demodulation based on a command received from the CPU 51. While the demodulated picture signal of the selected channel is output to the recording reproducer 65, the control signal of the CPU 51 is also output to the recording reproducer 65, and the recording reproducer 65, upon receipt of these signals, executes the drive of a recording reproducing head and the control of a tape reel drive motor (neither of which is shown in the diagram) in response to the recording and reproduction of the picture signal. Furthermore, the picture image signal outputter 70 selects one of either the picture image signal of any channel that has been demodulated by the tuner 60, the picture image signal reproduced by the recording reproducer 65, or the picture image signal generated as a result of the reading of image data memorized in the RAM 53 by the CPU 51 and, following the temporary accumulation of this signal in an internal video memory not shown in the diagram, the signal

is regularly output to the television receiver 5.

Next, with reference to the explanatory diagram of a program schedule shown in Fig. 4 and the flow charts shown in Fig. 5 and Fig. 6, the processing executed by the CPU 31 and 51 of the recording reservation card 1 and the VTR 3 will be described. When the recording reservation card 1 is attached to the VTR3 and the power is switched on, a card-side processing routine shown in Fig. 5 is initiated in which, first, the processing for the initialization and so on of the cursor position is executed (Step 100). The initial position of the cursor is a start point set in advance which, in the program schedule shown in Fig. 4, is a position that corresponds to the channel of lowest number and the program of the earliest time slot (program A1 in this embodiment). Thereafter, the program schedule is read from the ROM 32 (Step 110) and the processing for the outputting of the program data of the region correspondent to the cursor position and the cursor position data to the VTR 3 by way of the input/output port 38 is executed (Step 120). That is to say, because not all of the program schedule can be displayed at one time on the television receiver 5, a single screen segment around the position of the cursor is output. The output program data is temporarily memorized in the RAM 53 by way of the connector 30 and then sent to the picture image signal outputter 70 by the control of the CPU 51 where, following conversion into a picture image signal, it is

output to the television receiver 5. Thereafter, the operation of a key provided in the surface of the recording reservation card 1 is awaited (Step 130), and the routine shifts to the processing of Step 140 and beyond in response to said input key.

If the input key is the cursor key, cursor data is output in response to one of either of the operation keys 21 to 24 (Step 140), and a processing for the updating of the cursor position information memorized in the RAM 33 in response to the configuration of the program schedule is executed (Step 150). For example, when the upward-facing arrow cursor key 21 is operated with the cursor in the program C3 position shown in Fig. 4, this data is output to the picture image signal outputter 70 of the VTR 3 and, in addition, the cursor position information of the recording reservation card 1 is updated from program C3 to the program C2 position. In addition, if the right-facing arrow cursor key 24 is operated, the cursor position information is updated from the program C3 to the program D3 position. Following the execution of the above processing, the routine returns to Step 120 and the processing of Step 120 and beyond is executed. Accordingly, if the cursor is shifted to a region outside the region currently being displayed, the region of the displayed program is also updated by the processing of Step 120.

If the input key in the judgment of Step 130 is deemed

to be the "setting" key 11, a processing for the reading of the start time of the program and the channel number thereof from the ROM 32 in response to the current cursor information position (Step 160) and, thereafter, a processing for the output of the recording start time to the CPU 51 of the VTR 3 (Step 170) is executed. For example, when the cursor is at program C3 an 8.45 program start time and channel CH5 are read and output. Thereafter, a processing for the reading of the end time of the program (Step 180) and for the output of this time is executed (Step 190). In the above example a 9.30 end time is read and output.

On the other hand, if the "weekly" key 12 is input, a search of the programs for the next week and beyond memorized in the ROM 3 is conducted (Step 200), and a judgment is made of whether or not a program the same as the program where the cursor is currently positioned is present in the next week and beyond (Step 210). If the same program is present in the next week and beyond, similarly to the previously described operation of the "setting" key, the start time, which includes the date of the program, and the channel are read and output and, furthermore, the end time of the program is read and output (Steps 160 to 190). If the same program is not present, the routine moves to Step 120 without alteration and the processing from the key input is repeated. Based on this processing, even if the same program is broadcast at a different time in the next week and beyond, it can be easily

reserved. The processing at the VTR3 side will also be described.

If the input key in Step 130 is the "consecutive" key 13, a processing for the cancellation of the end time of the consecutive program of the previously set plurality of programs is executed (Step 220). As a result, when the recording of a consecutive plurality of programs is to be set (including programs on the same or different channels), there is no need for the power down of the power source for the VTR3 each time the broadcast time of a program is completed.

While the processing of the recording reservation card 1 is described above, the following processing is performed at the VTR3 side in response to this processing. As shown in Fig. 6, first of all the output of data from the recording reservation card 1 is awaited (Step 300) and, when this data is received, the content thereof is adjudged (Step 310). If the output content is cursor data (corresponding to Fig. 5 Step 140), the CPU 51 outputs data to the picture image signal outputter 70 and updates the inverse position of the program being displayed (Step 350). For example, if the diagonal-line shaded program C3 of Fig. 4 is inversely displayed, when information to the effect that the downward-facing arrow cursor key 22 has been operated is sent from the recording reservation card 1, the program C4 is inversely displayed and the program C3 is switched over to the output of the normally displayed picture image signal.

On the other hand, if the content of the output from the recording reservation card 1 is the program schedule data, it is temporarily accumulated in the RAM 53 correspondent to the data output by Step 120 in Fig. 5, following which processing for its setting in the picture image signal outputter 70 as data to be displayed in the television receiver 5 (Step 320) and processing for the input of cursor position data output by the recording reservation card 1 is executed (Step 330). Thereafter, a processing for the setting of the position of the inverse displayed program in the picture image signal outputter 70 in accordance with the input cursor position data is executed (Step 340).

In addition, if the output content from the recording reservation card 1 is the set time information correspondent to Steps 170 and 190 of the card-side processing, a processing for the temporary memorizing of this information in the RAM 53 (Step 360), and a processing for the setting in the timer 55 of the data and time closest to the current time of the memorized plurality of time information is executed (Step 370). When the set data and time are reached, the timer 55 sends an interruption to the CPU 51, and a processing for driving the timer 60 and recording reproducer 65 so as to record the memorized channel program on the video cassette tape is executed.

Following the completion of the processing of Steps 310 to 370, the routine returns to Step 300 and is repeated from

the processing for the awaiting of the data output from the recording reservation card 1.

The user executes the setting of the recording reservation outlined hereinafter using the recording reservation card 1 processing and the VTR 3 processing as described above.

(1) First, when the recording reservation card 1 is attached to the VTR 3 and the power source is switched on, part of the program schedule for that day is displayed in a schedule format in the television receiver 5 as shown in Fig. 4. The desired program can be inversely displayed by the operation of the cursor keys 21 to 24 and, if a cursor operation for the movement of an inverse display part outside the region currently being displayed is performed, the display region is updated. Although the processing for the display of a program schedule other than the program schedule for this day is not specifically described, a special-purpose key may be provided, and the adoption of a configuration for the display of the program schedule of the previous day and the next day based on the combination of the cursor key 21, 22 and other keys is also suitable.

(2) When the "setting" key 11 of the recording reservation card 1 is operated in the state in which the desired program is inversely displayed, the start time, including the date of the program, as well as the channel and the end time are memorized and, when the start time is

reached, the VTR3 starts the recording and, when the end time is reached, it ends the recording.

(3) When the recording reservation of a particular program is performed following the operation of the "weekly" key 12, a search of the program content of the following week and beyond memorized in the ROM32 in advance is carried out and, if a program the same as the current inverse displayed program is present, the start time, including the date, as well as the channel and the end time are set. Accordingly, even if the same program is broadcast in a different time slot, the recording reservation can be performed without error.

(4) When the recording reservation of a plurality of programs is performed following the operation of the "consecutive" key 13, the setting of the end time of the program of the consecutive time slot of the recording reserved programs is cancelled. Accordingly, when a plurality of programs are recorded in consecutive time slots, there is no need for the power down of the power source VTR3 each time a set program ends, which is of course desirable from the viewpoint of the durability of the VTR3.

As is described above, one to several weeks' worth of program content and the start and end times thereof are memorized in the recording reservation card 1 of this embodiment and, because this is displayed in the television receiver 5 for use for the recording reservation of a

program, recording reservation can be very easily performed. Because the recording reservation involves merely the selecting of a program, the trouble inherent to the setting of time and the reading of a barcode and the like is eliminated and, accordingly, individuals with no experience in the operation of machines such as this can perform this operation easily. Furthermore, because this embodiment enables same content programs to be searched, even when a serial program is broadcast in a different time slot, the recording reservation thereof can be easily performed.

Although one embodiment of the present invention is described above, the present invention should not be regarded as being restricted to this embodiment alone and, in a range that is not outside the gist of the present invention, it may of course be embodied in a variety of modes such as, for example, a configuration for the selection of the desired program using, instead of a cursor key, a touch board, mouse or write pen grounded to the screen of the television receiver, and a configuration for the direct provision of the setting key in the VTR.

Effect of the Invention

According to the recording reservation controller of the present invention described above, recording reservation can be performed by simply selecting a program while viewing the program content displayed in a schedule format on a television receiver and, accordingly, this has the excellent

effect of enabling the recording reservation of a program to be greatly simplified.

4 Brief Description of the Drawings

Fig. 1 is a block diagram showing the fundamental configuration of the present invention; Fig. 2 is a perspective view showing the external appearance of a recording reservation card 1 as one embodiment of the present invention and a video recorder 3; Fig. 3 is a block diagram showing the internal configuration of said recording reservation card 1 and video recorder 3; Fig. 4 is an explanatory diagram showing one example of program display in this embodiment; Fig. 5 is a flow chart showing the processing executed at the recording reservation card 1 side; and Fig. 6 is a flow chart showing the processing executed at the videotape recorder 3 side.

1 Recording reservation card

3 Videotape recorder (VTR)

5 Television receiver

11, 12, 13 Control key

21, 22, 23, 24 Cursor key

55 Timer 60 Tuner

65 Recording reproducer 70 Picture image signal outputter

Agent: Patent Attorney, Tsutomu Adachi (and 2 others)

FIG. 1

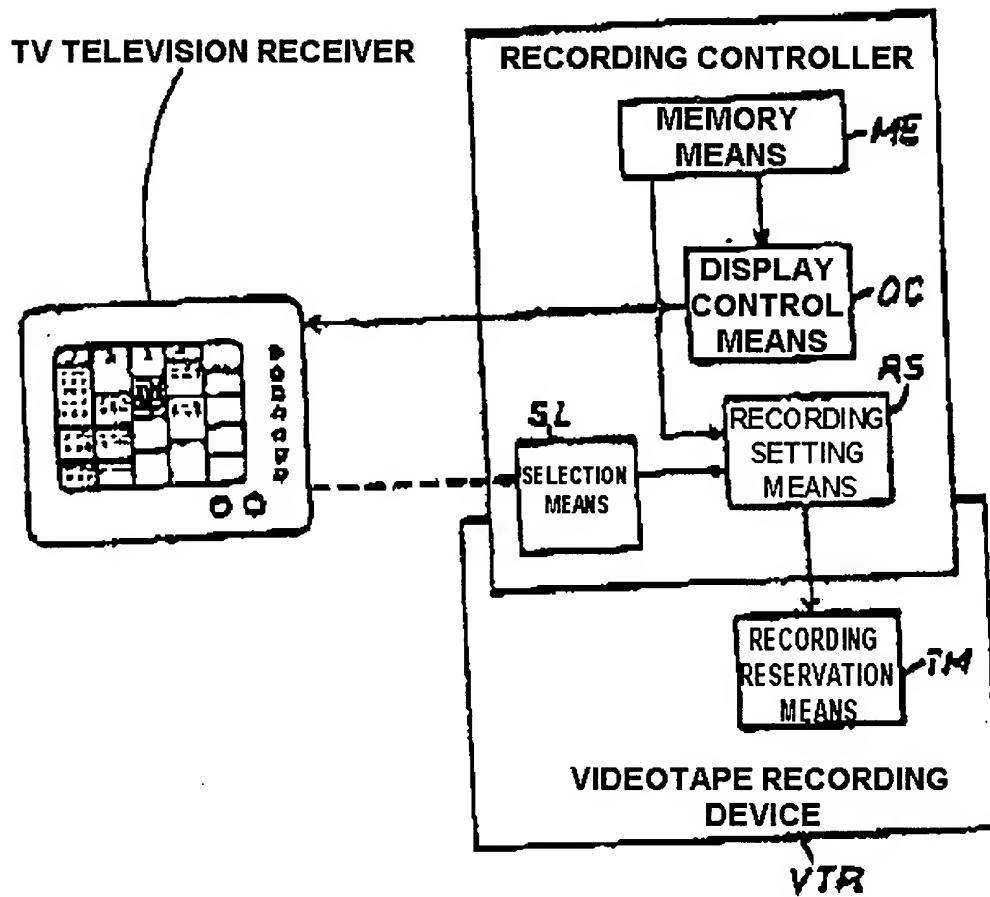


FIG. 2

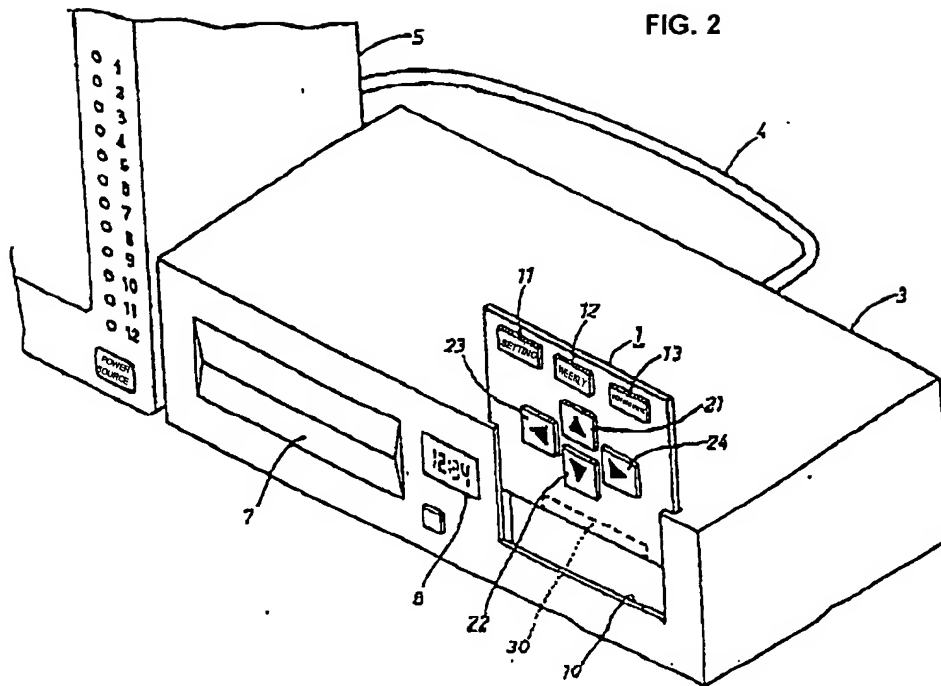


FIG. 3

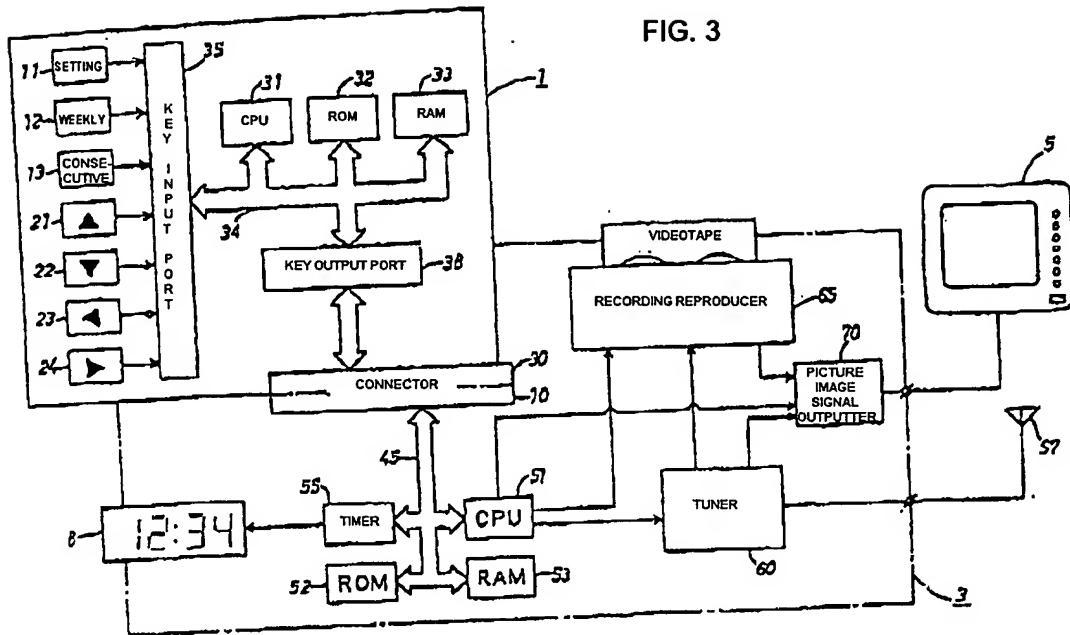


FIG. 4

5

CH1	CH3		CH5	CH7
00 A1	00 B1	7	00 C1	00 D1
15 A2	30 B2			45 D2
00 A3	B3	8	00 C2	D3
30 A4			45 C3	
00 A5		9	30 C4	
30 A6				
00 A7	B4	10	00 C5	30 D4
15 A8			45 C6	
00 A9	00 B5	11	00 C7	00 D5
	30 B6		45 C8	
00 A7	B7	0	00 C9	D6
			30 C10	

FIG. 5

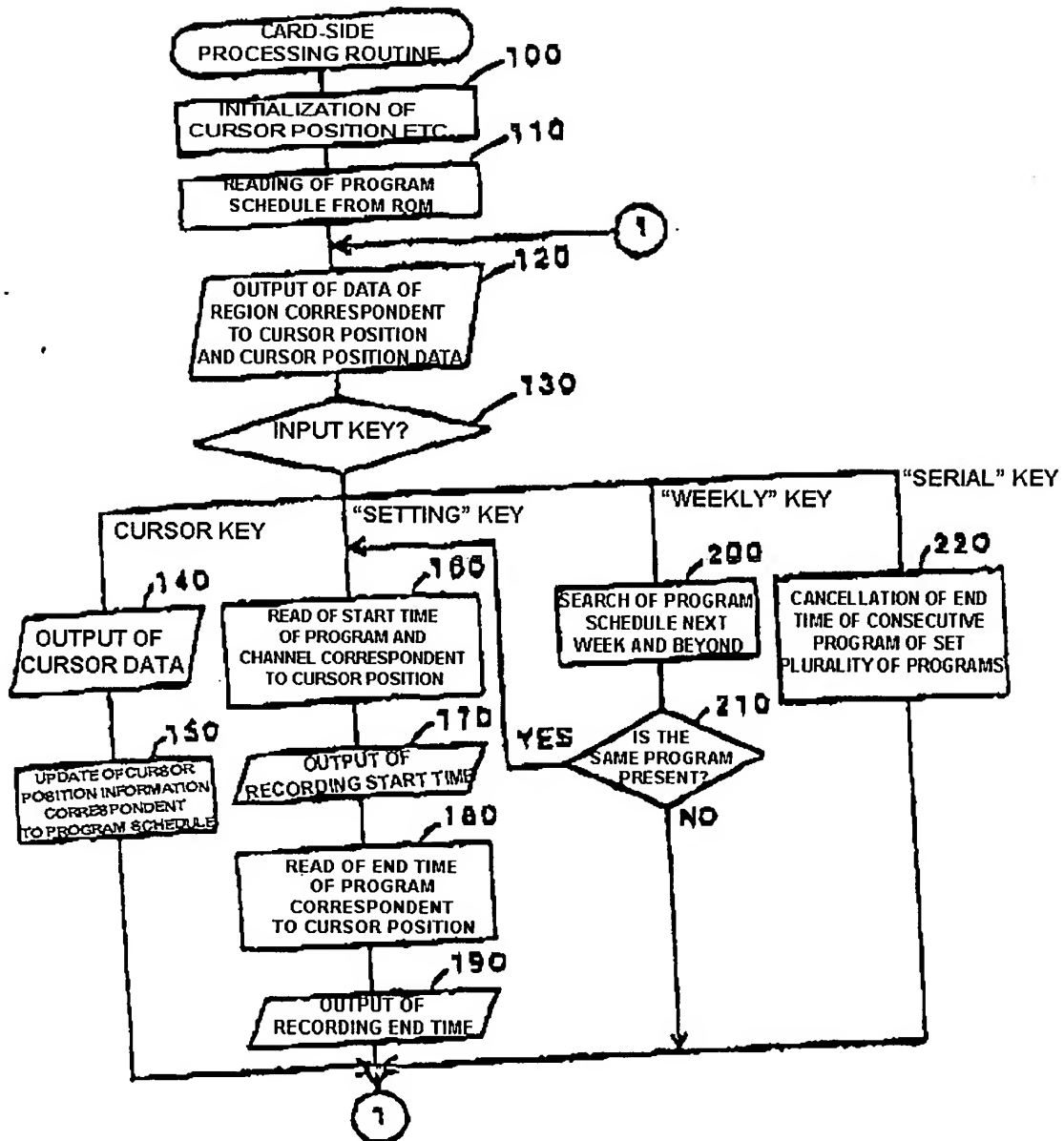
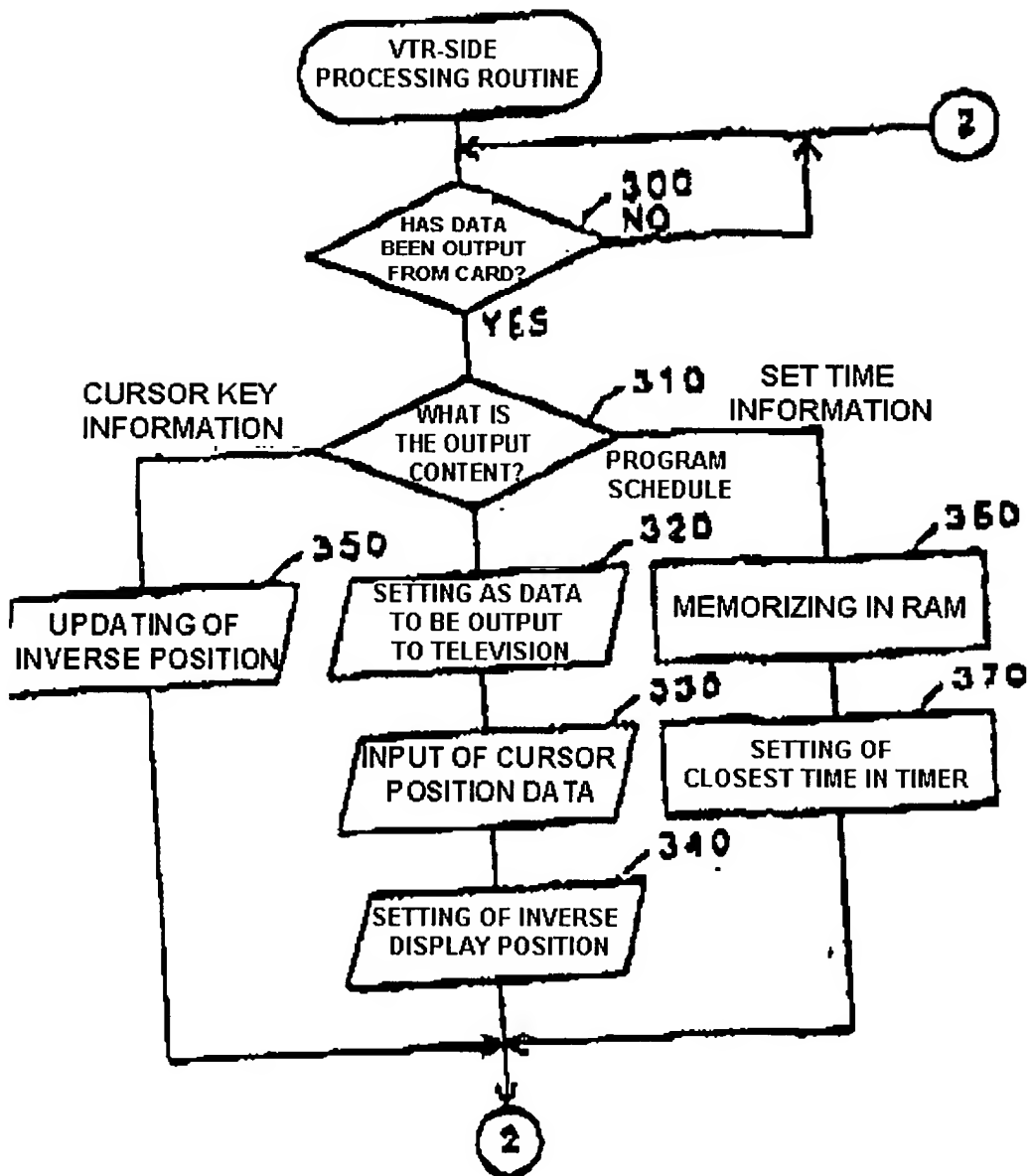


FIG. 6



[Gazette Classification] Publication of amendments in
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January 8, 1996

For the Attn. of: Commissioner of the Patent Office,
[illegible] Kiyokawa

1. Case Displayed

Japanese Patent Application No. S63-138679

2. Party making the amendment

Relationship to case: Patent Applicant

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4. Date of amendment order: Voluntary

5. Number of inventions increased as a result of the amendment: 1

6. Subject of the Amendment

"Title of the Invention", "Scope of Claims", "Detailed Description of the Invention" and "Brief Description of the Drawings" of the specification.

7. Details of Amendment

(1) The title of the invention is to be amended to "Broadcast content receiver".

(2) The scope of the claims is to be amended as indicated in Attachment 1.

(3) The "Accompanying the spread of the use of video recording video ...proposed." of lines 5 to 7 of column 2 of the specification is to be amended as follows:

"Even though televisions have been around for a long time, it is not uncommon for people to inadvertently miss watching television broadcast content that they had intended to watch. Principal causes of this including mistaking the broadcast time and becoming absorbed in another activity and simply forgetting about the broadcast.

"An effective method of dealing with this issue is to reserve the broadcast content that one wants to watch in a video recording device (so-called video recorder) in advance. However ...".

(4) The "achieve a simplification of the recording reservation" of lines 8 to 9 of column 3 of the specification is to be amended to read "provide a broadcast content receiver for preventing missing a television program that one wished to watch that, moreover, is easily operable".

(5) The "The recording ... RS" from line 7 from the bottom of column 3 to line 8 of column 4 of the specification is to be amended as follows:

"A broadcast content receiver comprising a tuner for outputting the desired broadcast content from a received plurality of television broadcast content and a television receiver for displaying the picture image signal of the broadcast content extracted by said tuner, characterized in that it comprises:

"input means for uploading from the exterior to said broadcast content receiver information containing at least the television broadcast content and broadcast time;

"storage means for temporarily storing the information uploaded by said input means;

"display control means for reading said stored above information and outputting it in a schedule format to the above television receiver;

"selection means for selecting the desired broadcast content from said displayed information; and

"broadcast content output means for, in accordance with said selected above information, extracting this broadcast

content to the above tuner when the broadcast time of said selected broadcast content is reached."

(6) The "Accordingly is executed .." of line 11 of column 4 to line 9 of column 5 of the specification is to be amended as follows:

"The reception of the desired broadcast content by the broadcast content receiver at the broadcast time is outlined below.

"First, information containing at least the television broadcast content and the broadcast time is uploaded from the exterior to said broadcast content receiver by way of input means. The information uploaded in this way is temporarily stored in storage means. Next, display control means reads the information from storage means and displays it in a schedule format in the television receiver. Accordingly, the broadcast content and broadcast time can be viewed in the same format as the television broadcast schedule listed in a newspaper or television magazine. In this state, information is selected by selection means by, for example, the moving of a cursor and a flash display or inverse display accompanying this. When the broadcast time of the selected broadcast content is reached, broadcast content output means extracts this broadcast content to the tuner.

"In other words, if the desired content is selected employing selection means from broadcast content displayed by display control means in a schedule format in a television

receiver in advance, when the broadcast time of the broadcast content is reached, it can be automatically selected by the tuner. Accordingly, if the picture image signal of the selected broadcast content is displayed in advance in a desired image outputter (for example, a television receiver), the missing of desired broadcast content can be prevented."

(7) The "recording reservation... as one" from line 9 to line 7 from the bottom of column 5 of the specification is to be amended as follows:

"An example of the application of one embodiment of the broadcast content receiver in a recording reservation controller will be described. First, Fig. 1 is a block diagram that shows in a further simplified form the fundamental configuration of a recording reservation controller. The recording reservation controller shown in the diagram is principally configured from memory means, display control means, selection means, recording setting means and recording reservation means. Information pertaining to television broadcasts is stored in memory means, the stored content being a 1 to 4 week period of information including television broadcast content and the broadcast start and finish times of this content. Display control means displays the information memorized in memory means in a schedule format in the television receiver, and selections means selects the desired broadcast content from this displayed information. Recording setting means sets the broadcast time

of recording reservation means in the video recording device in accordance with the information selected in this way. Fig. 2 shows an actual recording reservation controller,"

(8) The "is output to..." of line 5 of column 10 of the specification is to be amended as follows:

"is output to. In other words, because information pertaining to broadcast content is uploaded from the ROM 32 external thereof by way of the connector 30 and so on, the junction part 10 and the CPU 51 for the upload processing of the program data from the junction part 10 are equivalent to input means of the present invention. The RAM 53 is equivalent to storage means of the present invention, and the S120 processing is equivalent to processing executed by display control means of the present invention."

(9) The "and output." of line 1 of column 12 of the specification is to be amended to "and output. In other words, the cursor key 21 and "setting" key 11 are equivalent to selection means of the present invention."

(10) The "starts the recording ...is ended." of lines 7 to 8 of column 16 of the specification is to be amended as follows:

"The memorized channel is received, demodulated and output by the tuner 60, the recording reproducer 65 starts the recording and, when the end time is reached, it ends the recording. In other words, the processing executed in this part constitutes a processing equivalent to broadcast content output means of the present invention to which the processing

for the control of the recording reproducer 65 has been supplemented."

(11) The "recording reservation ...can be" of lines 5 to 9 of column 18 of the specification is to be amended as follows:

"According to the broadcast content receiver, because the desired broadcast content is received when the broadcast time is reached, the desired broadcast content can be viewed by the simple display of the picture image signal of the broadcast content received in this way in a desired image outputter (for example, television receiver) and, accordingly, it will not be missed. In addition, recording reservation can be performed without using an image outputter if the picture image signal is output to a video recording device and recorded. The desired program should be selected while viewing the content of the program displayed in a schedule format in the television receiver however the picture image signal is output and, therefore, the operation is extremely simple ...".

(12) The "as one embodiment of the present invention .." of lines 11 to 12 of column 18 of the specification is to be amended to "a block diagram showing the fundamental configuration of the recording reservation controller as one embodiment of the present invention; and Fig. 2 is ..".

Attachment 1

2 Scope of Claims

1 A broadcast content receiver comprising a tuner for outputting the desired broadcast content from a received plurality of television broadcast content, and a television receiver for displaying the picture image signal of broadcast content extracted by said tuner, comprising:

input means for uploading from the exterior to said broadcast content receiver information containing at least the television broadcast content and broadcast time;

storage means for temporarily storing the information uploaded by said input means;

display control means for reading said stored above information and outputting it in a schedule format to the above television receiver;

selection means for selecting the desired broadcast content from said displayed information; and

broadcast content output means for, in accordance with said selected above information, extracting this broadcast content to the above tuner when the broadcast time of said selected broadcast content is reached.

2 The broadcast content receiver as claimed in claim 1, comprising a video recording device for recording of broadcast content extracted by the above tuner during the period of the above broadcast by above broadcast content output means.

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4. 補正命令の日付 日見

5. 補正により増加する請求項の数 1

6. 補正の対象

明細書の「発明の名称」、「特許請求の範囲」、
「発明の詳細な説明」及び「図面の簡単な説明」の欄。

7. 補正の内容

(1) 発明の名称を「放送内容受信装置」と補正する。

(2) 特許請求の範囲を別紙1の通り補正する。

(3) 明細書の第2頁第5行~同頁第7行に「ビデオ録画……ている。」とあるを、以下のように補正する。

「見たいと思っていたテレビの放送内容を、うっかり見損ねてしまうという失敗は、テレビが登場して久しい今日においてもよくあることである。この失敗は、放送日時を間違えたり、他のことに気が取られて忘れてしまう等が主な原因である。

これに対する有効な方法として、見たい放送内容を予め、ビデオ録画装置(いわゆるビデオテープレコーダ)に予約しておくという方法がある。しかし」

(4) 明細書の第3頁第8行~同頁第9行に「録画予約の簡略化を図る」とあるを、「見たいテレビ番組を見逃すことがなく、しかも容易に操作可能な放送内容受信装置を提供する」と補正する。

(5) 明細書の第3頁下から第7行~第4頁第8行に「録画……RS」とあるを、以下のように補正する。

「放送内容受信装置は、

受信された、複数のテレビの放送内容から、所望の放送内容を抽出するチューナと、該チューナにより抽出された放送内容の映像信号を表示するテレビ受像機とを備えた放送内容受信装置において、

少なくともテレビ放送の内容と放映時間とを合致情報を外部から当該放送内容受信装置に取り込む入力手段と、

該入力手段により取り込まれた上記情報を一時的に格納する格納手段と、

該格納された上記情報を読み出して上記テレビ受像機に表形式で表示させる表示制御手段と、

該表示された上記情報から所望の放送内容を選択する選択手段と、

該選択された放送内容の放映時間になると、その放送内容を上記チューナに抽出させる放送内容出力手段と」

(6) 明細書の第4頁第11行~第5頁第9行に「録画……実行する。」とあるを、以下のように補正する。

「放送内容受信装置は、以下のようにして所望の放送内容を放映時間に受信する。まず外部より入力手段を介して、少なくともテレビ放送の内容と放映時間とを含む情報を、当該放送内容受信装置に取り込む。こうして取り込まれた情報は、格納手段に一時的に格納される。次に表示制御手段が、格納手段から情報を読み出して、テレビ受像機に表形式で表示させる。従って、新聞や専門誌に掲載されるテレビ放送の番組表と同様の形式で、放送の内容と放映時間とを確認することができる。この状態で、選択手段、例えばカーソルの移動とこれに伴う表示の点滅や反転表示等により情報を選択する。そして放送内容出力手段が、選択された放送内容の放映時間になると、その放送内容を上記チューナに抽出させる。

つまり、表示制御手段にてテレビ受像機に表形式で表示された放送の内容から選択手段を用いて所望の内容を予め選択しておけば、その放送内容が放送される時間になると、自動的にその放送内容がチューナによって選局される。よって、選局された放送内容の映像信号が所望の映像出力装置（例えば、上記のテレビ受像機）に表示されるようにしておけば、所望の放送内容を見逃すのを防止できる。」

（７）明細書の第５頁下から第９行～同頁下から第７行に「録画予約……としての」とあるを、以下のように補正する。

「放送内容受信装置の一実施例として、録画予約制御装置に適用した例について説明する。まず、第１図は録画予約制御装置の基本的構成を、更に簡略化して例示したブロック図である。本図に示すように録画予約制御装置は、記憶手段と、表示制御手段と、選択手段と、録画設定手段と、録画予約手段とを主に構成されている。記憶手段は、テレビ放送に関する情報が格納されているもので、その情報の内容は、テレビ放送の内容とその各内容の放送開始・終了時刻が、１週間から４週間分程度に亘り格納されたものとなっている。表示制御手段は、記憶手段に記憶された情報をテレビ受像機に表形式で表示させるためのものであり、選択手段は、この表示された情報から所望の放送内容を選択するためのものである。こうして選択された情報に従い録画設定手段が、録画予約手段にその放映時間をビデオ録画装置に設定する。第２図は、実際の録画予約制御装置を示すもので、」（８）明細書の第１０頁第５行に「される。」とあるを、以下のように補正する。

「される。つまり、接続部１０、及び接続部１０から番組データを取り込む処理を行なうＣＰＵ５１は、これらの外部にあるＲＯＭ３２からコネクタ３０等を介して放送内容に関する情報を取り込むので、本発明の入力手段に相当する。そして、ＲＡＭ５３が本発明の格納手段に相当し、Ｓ１２０の処理が本発明の表示制御手段としての処理に相当する。」

（９）明細書の第１２頁第１行に「になる。」とあるを、「になる。つまり、カーソルキー２１及び「設定」キー１１が本発明の選択手段に相当する。」と補正する。

（１０）明細書の第１６頁第７行～同頁第８行に「録画を開始……終了する。」とあるを、以下のように補正する。

「記憶されたチャンネルを、チューナ６０にて受信・復調して出力し、録画再生部６５は録画を開始し、終了時刻がくると録画を終了する。つまりこの部分の処理は、本発明の放送内容出力手段に相当する処理に、録画再生部６５を制御する処理を加えた処理となっている。」

（１１）明細書の第１８頁第５行～同頁第９行に「録画予約……ことが」とあるを、以下のように補正する。

「放送内容受信装置によれば、所望の放送内容が放送時刻になると受信されるので、こうして受信された放送内容の映像信号を、所定の映像出力装置（例えばテレビ受像機）に表示されるようにしておくだけで、所望の放送内容を見ることができ、見逃すことがない。また映像出力装置ではなく、ビデオ録画装置に対して映像信号を出力し、これを録画させるようにすれば、録画予約を行なうこともできる。これら何れに対して映像信号を出力する場合にも、所望の番組の指定を、テレビ受像機に表形式で表示される番組の内容を見ながら選択すれば良いので、操作が極めて簡単に」

（１２）明細書の第１８頁第１１行～同頁第１２行に「本発明の……としての」とあるを、「本発明の一実施例である録画予約制御装置の基本的構成を例示するブロック図、第２図は」と補正する。

以上

別紙１

２ 特許請求の範囲

１ 受信された、テレビの放送内容から、所望の放送内容を抽出するチューナと、該チューナにより抽出された放送内容の映像信号を表示するテレビ受像機とを備えた放送内容受信装置において、

少なくともテレビ放送の内容と放映時間とを含む情報を外部から当該放送内容受信装置に取り込む入力手段と、

該入力手段により取り込まれた上記情報を一時的に格納する格納手段と、
該格納された上記情報を上記テレビ受像機に出力し、該テレビ受像機に表形式で表示させる表示制御手段と、

該表示された上記情報から所望の放送内容を選択する選択手段と、
該選択された上記情報に従って、放送内容の放映時間になると、その放送内容を上記チューナに抽出させる放送内容出力手段と
を備えたことを特徴とする放送内容受信装置。

２ 上記放送内容出力手段によって、上記放映時間に上記チューナが抽出した放送内容を、録画するためのビデオ録画装置を備えたことを特徴とする特許請求の範囲第１項記載の放送内容受信装置。